

[FIG. 2]

120: PANEL CONTROL UNIT  
 125: OPERATING PANEL  
 130: READING CONTROL UNIT  
 131: A/D CONVERTER  
 135: CCD IMAGE SENSOR  
 140: IMAGE PROCESSING UNIT  
 145: DATA ABNORMALITY DETECTING UNIT  
 150: MEMORY CONTROL UNIT  
 160: COMMUNICATION CONTROL UNIT  
 161: CODEC UNIT  
 165: MODEM  
 170: RECORDING CONTROL UNIT  
 175: RECORDING UNIT

[FIG. 3]

136: PHOTODIODE  
 137: ANALOG SHIFT REGISTER  
 138: SHIFT GATE  
 139: AMP

[FIG. 4]

155a: IMAGE DATA STORAGE AREA  
 155b: DETERMINATION VALUE STORAGE AREA  
 155c: WORK AREA

[FIG. 5]

PIXEL DATA  
 SELECT SIGNAL  
 UPDATE DATA  
 STORED MINIMUM VALUE  
 UPDATE TIMING SIGNAL  
 READ-OUT MINIMUM DATA  
 141a: COMPARATOR  
 141b: SELECTOR  
 141c: MINIMUM VALUE REGISTER

[FIG. 6]

PIXEL DATA  
 SELECT SIGNAL  
 UPDATE DATA  
 STORED MAXIMUM VALUE  
 UPDATE TIMING SIGNAL  
 READ-OUT MAXIMUM DATA  
 142a: COMPARATOR

142b: SELECTOR  
142c: MAXIMUM VALUE REGISTER

[FIG. 7]

IMAGE PROCESSING

131: A/D CONVERTER  
135: CCD IMAGE SENSOR  
145: DATA ABNORMALITY DETECTING UNIT  
161: CODEC  
165: MODEM  
175: RECORDING UNIT  
210: BLACK LEVEL CORRECTION  
220: SHADING CORRECTION  
230: VARIOUS KINDS OF IMAGE PROCESSING  
240: BINARIZATION  
250: DATA ABNORMALITY ANNOUNCING UNIT (ALARM MESSAGE OR THE LIKE)

[FIG. 8]

START

S11: SET VARIOUS INITIAL VALUES.  
S12: START READING OF ONE PAGE.  
S13: UPDATE STORAGE VALUES OF MAXIMUM VALUE REGISTER AND MINIMUM VALUE REGISTER.  
S15: COMPLETION OF PAGE READING  
S16: (VALUE OF MAXIMUM VALUE REGISTER) < (BLACK DETERMINATION VALUE) ?  
S17: GIVE ALL-BLACK ALARM.  
S18: SHOULD TRANSMISSION BE CANCELED?  
S20: TERMINATION  
S21: SHOULD ORIGINAL BE READ AGAIN AFTER CHANGING SETTINGS TO REDUCE DENSITY?  
S22: CANCELLATION OF TRANSMISSION  
S23: CHANGE BINARIZATION THRESHOLD VALUE, WHITE DETERMINATION VALUE, AND BLACK DETERMINATION VALUE.  
S25: (VALUE OF MINIMUM VALUE REGISTER) > (WHITE DETERMINATION VALUE) ?  
S26: NORMAL TERMINATION  
S27: GIVE ALL-WHITE ALARM.  
S28: SHOULD TRANSMISSION BE CANCELED?  
S30: TERMINATION  
S31: SHOULD ORIGINAL BE READ AGAIN AFTER CHANGING SETTINGS TO REDUCE DENSITY?  
S32: CANCELLATION OF TRANSMISSION  
S33: CHANGE BINARIZATION THRESHOLD VALUE, WHITE DETERMINATION VALUE, AND BLACK DETERMINATION VALUE.

[FIG. 9, 10, 11]

(WHITE)

WHITE DETERMINATION VALUE  
BINARIZATION THRESHOLD VALUE

BLACK DETERMINATION VALUE

(BLACK)

F: MAXIMUM VALUE

G: MINIMUM VALUE

H: BINARIZATION RESULT

[FIG. 12]

START

S51: SET VARIOUS INITIAL VALUES.

S52: START READING OF ONE PAGE.

S53: UPDATE STORAGE VALUES OF MAXIMUM VALUE REGISTER AND MINIMUM VALUE REGISTER.

S55: COMPLETION OF PAGE READING

S56:  $\{ (\text{VALUE OF MAXIMUM VALUE REGISTER}) - (\text{VALUE OF MINIMUM VALUE REGISTER}) \} < (\text{AMPLITUDE DETERMINATION VALUE}) ?$

S57: NORMAL TERMINATION

S58: GIVE ABNORMALITY ALARM.

S60: SHOULD TRANSMISSION BE CANCELED?

S61: TERMINATION

S62: CANCELLATION OF TRANSMISSION

[FIG. 13, 14]

A: (WHITE)

B: BINARIZATION THRESHOLD VALUE

C: (BLACK)

D: MAXIMUM VALUE

E: MINIMUM VALUE

F: BINARIZATION RESULT

[FIG. 15]

1-LINE/1-OUTPUT DEVICE

EFFECTIVE READING RANGE

[FIG. 16]

1-LINE/3-OUTPUT DEVICE

EFFECTIVE READING RANGE

[FIG. 17]

3-LINE/3-OUTPUT DEVICE